

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently amended) A method of detecting DNA markers in the *12q22-23* region, comprising:

providing a sample containing DNA from a human subject, wherein the DNA exists as acellular DNA in the subject; and

detecting one or more DNA markers ~~in the *12q22-23* region extending from~~
selected from the group consisting of D12S1657, D12S393, D12S1706, and to
D12S346 on the DNA.

2. (Original) The method of claim 1, wherein the sample is a serum sample.

3. (Original) The method of claim 1, wherein the sample is a plasma sample.

4. (Canceled)

5. (Original) The method of claim 1, wherein the DNA markers are associated with the *APAF-1* gene.

6. (Previously presented) A method of detecting melanoma, comprising:
providing a sample containing DNA from a human subject, wherein the DNA exists as acellular DNA in the subject; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 is indicative of melanoma.

7. (Original) The method of claim 6, wherein the sample is a serum sample.

8. (Original) The method of claim 6, wherein the sample is a plasma sample.

9. (Canceled)

10. (Original) The method of claim 6, wherein the DNA markers are associated with the *APAF-1* gene.

11. (Canceled)

12. (Previously presented) The method of claim 6, wherein the melanoma is a primary melanoma.

13. (Previously presented) The method of claim 6, wherein the melanoma is a metastatic melanoma.

14-16. (Canceled)

17. (Currently amended) A method of staging melanoma or colon cancer, comprising:

providing a melanoma or colon cancer tissue sample or a body fluid sample containing DNA from a human subject suffering from melanoma or colon cancer; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 indicates that the a-high probability for the subject to suffer from of a metastatic cancer is higher than the probability for the subject to suffer from a primary cancer.

18. (Original) The method of claim 17, wherein the sample is a serum sample.

19. (Original) The method of claim 17, wherein the sample is a plasma sample.

20. (Canceled)

21. (Original) The method of claim 17, wherein the DNA markers are associated with the *APAF-1* gene.

22-25. (Canceled)

26. (Currently amended) A method of monitoring progression of melanoma or colon cancer, comprising:

providing a melanoma or colon cancer tissue sample or a body fluid sample containing DNA from a human subject suffering from melanoma or colon cancer; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 indicates that the a-high probability for the subject to suffer from of a progressing cancer is higher than the probability for the subject to suffer from a non-progressing cancer.

27. (Original) The method of claim 26, wherein the sample is a serum sample.

28. (Original) The method of claim 26, wherein the sample is a plasma sample.

29. (Canceled)

30. (Original) The method of claim 26, wherein the DNA markers are associated with the *APAF-1* gene.

31-34. (Canceled)

35. (Currently amended) A method of predicting the efficacy of a melanoma biochemotherapy, comprising:

providing a melanoma tissue sample or a body fluid sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of a biochemotherapy; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 indicates poor efficacy of the biochemotherapy in the subject.

36. (Original) The method of claim 35, wherein the sample is a serum sample.

37. (Original) The method of claim 35, wherein the sample is a plasma sample.

38. (Canceled)

39. (Original) The method of claim 35, wherein the DNA markers are associated with the *APAF-1* gene.

40-43. (Canceled)

44. (Currently amended) A method of determining the probability of survival, comprising:

providing a melanoma tissue sample or a body fluid sample containing DNA from a human subject suffering from a stage III or IV melanoma; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and

D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 indicates that the subject has a low probability of survival if the subject has not responded to a biochemotherapy.

45. (Original) The method of claim 44, wherein the sample is a tumor sample.

46. (Original) The method of claim 44, wherein the sample is a serum sample.

47. (Original) The method of claim 44, wherein the sample is a plasma sample.

48. (Canceled)

49. (Original) The method of claim 44, wherein the DNA markers are associated with the *APAF-1* gene.

50-51. (Canceled)

52. (Previously presented) The method of claim 44, wherein the melanoma is an RLM melanoma.

53. (Previously presented) The method of claim 44, wherein the melanoma is an ITM melanoma.

54-57. (Canceled)

58. (Currently amended) A method of determining the probability of responsiveness to a melanoma biochemotherapy, comprising:

providing a melanoma tissue sample or a body fluid sample containing DNA from a human subject suffering from stage IV melanoma prior to administration of a biochemotherapy; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 indicates a low probability of responsiveness to the biochemotherapy in the subject.

59. (Original) The method of claim 58, wherein the sample is a tumor sample.

60. (Original) The method of claim 58, wherein the sample is a serum sample.

61. (Original) The method of claim 58, wherein the sample is a plasma sample.

62. (Canceled)

63. (Original) The method of claim 58, wherein the DNA markers are associated with the *APAF-1* gene.

64-73. (Canceled)

74. (Currently amended) The method of claim 1, wherein the DNA markers include a the combination of D12S1657, D12S393, D12S1706, and D12S346.

75-80. (Canceled)

81. (Previously presented) The method of claim 1, wherein the sample is a blood sample.

82. (Previously presented) The method of claim 6, wherein the sample is a blood sample.

83. (Previously presented) The method of claim 17, wherein the DNA exists as acellular DNA in the subject.

84. (Currently amended) The method of claim 17, wherein the sample is a blood sample, ~~or a melanoma or colon cancer tissue sample.~~

85. (Previously presented) The method of claim 26, wherein the DNA exists as acellular DNA in the subject.

86. (Currently amended) The method of claim 26, wherein the sample is a blood sample, ~~or a melanoma, or colon cancer, or brain cancer tissue sample.~~

87. (Previously presented) The method of claim 35, wherein the DNA exists as acellular DNA in the subject.

88. (Currently amended) The method of claim 35, wherein the sample is a blood sample, ~~or a melanoma tissue sample.~~

89. (Previously presented) The method of claim 44, wherein the DNA exists as acellular DNA in the subject.

90. (Previously presented) The method of claim 44, wherein the sample is a blood sample.

91. (Previously presented) The method of claim 58, wherein the DNA exists as acellular DNA in the subject.

92. (Previously presented) The method of claim 58, wherein the sample is a blood sample.

93. (Currently amended) A method of detecting colon or breast cancer, comprising:

providing a colon or breast cancer tissue sample or a body fluid sample containing DNA from a human subject; and

analyzing DNA markers including D12S1657, D12S393, D12S1706, and D12S346 on the DNA, wherein LOH of any of D12S1657, D12S393, D12S1706, and D12S346 is indicative of ~~colon or breast cancer~~ primary or metastatic colon cancer.

94. (Previously presented) The method of claim 93, wherein the DNA markers are associated with the *APAF-1* gene.

95. (Previously presented) The method of claim 93, wherein the DNA exists as acellular DNA in the subject.

96. (Currently amended) The method of claim 93, wherein the sample is a blood, serum, or plasma sample, ~~or a colon or breast cancer tissue sample~~.